



## PATENT ABSTRACTS OF JAPAN

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PHOTO OPTICAL CO LTD**(72) Inventor: **KATAKURA KAZUHIKO  
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NARITA TOSHIHIKO****(54) LIGHT SOURCE FOR LIQUID CRYSTAL  
DISPLAY DEVICE****(57) Abstract:**

**PROBLEM TO BE SOLVED:** To provide a light source for a liquid crystal display device having little heat generation and keeping the intensity distribution of the light source uniform by positioning/fixing plural LEDs on the basis of the same plane and fixing them side by side so as to become symmetric for translation in the same plane.

**SOLUTION:** A LED light source is stuck to/lined up so that the radiating surfaces of plural LEDs 140-145 are closely adhered to a transparent member 148. The transparent member 148 is a planar transparent body whose at least tight contact surface 148A on the side closely adhered to the radiating surfaces of plural LEDs 140-145 is formed planar and e.g. glass and transparent plastic are used as the material. Lead frame 147 of the LEDs 140-145 is bent down so as to be right angle to the tight contact surface 148A and connected to a substrate 146. The substrate 146 is connected to a light source control part. Parallel beams radiated from the respective LEDs 140-145 are transmitted through the transparent member 148, the mutual parallelism is kept, heat generation is little and light intensity distribution becomes uniform.

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